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MEETING THE CHALLENGE: A CASE STUDY OF ONLINE PROGRAM DEVELOPMENT AND IMPLEMENTATION

Abstract

A case study of the development and implementation of Valdosta State University's totally online Education Specialist in Instructional Technology degree program. Discussed in this description are challenges faced by faculty in the Department of Curriculum and Instructional Technology (C&IT) as they designed and delivered the program. Time was the only development challenge as the C&IT faculty is a team of instructional design and technology experts who collaboratively developed the curriculum and all courses. Unexpected implementation challenges were in the area of student support services. Program evaluation results showed that students gained the knowledge and skills targeted and were satisfied with their e-learning process and outcomes.

Academic departments face many challenges in providing e-learning programs. This paper describes challenges encountered during development and implementation of the totally online Education Specialist (Ed.S.) in Instructional Technology degree program offered by the Department of Curriculum and Instructional Technology (C&IT) at Valdosta State University (VSU). An overview gives general information about the background and requirements of the program. Challenges sections include identified needs of faculty and students in online programs and how the C&IT department met those needs. Selected program evaluation data are shared. A brief summary concludes the case study.

Program Overview

In 2000, C&IT redesigned its Education Specialist (Ed.S) in Instructional Technology degree program to be delivered in a totally online format. The prior on-campus program, which first gained approval in 1997, had low enrollment and was in danger of being relegated to inactive status. The faculty decision to revise the program was based on a desire to better meet the needs of advanced students in VSU's vast geographic service area. VSU is charged by the University System of Georgia to serve the southern third of the state, which means that many students must travel over two hours to attend classes on campus.

The revised program offers participants the opportunity to complete all requirements for the degree at a distance using the Internet and WebCT. Because the online learning system is available continuously, students access their courses at their convenience. Students are teachers, library media specialists, technology coordinators, and other educators and trainers with a Master's degree in any field. They are admitted twice per year in cohort groups, taking courses part-time while they work. This degree upgrades Georgia Teaching, Service, and Leadership certificates to the 6th year level.

The online program was developed in-house, at low cost, by C&IT faculty using the advanced standards of the Association for Educational Technology and Communication (AECT) and competencies advocated by the International Society for Technology in Education (ISTE). The curriculum emphasizes instructional design, development, utilization, management, and evaluation. To earn the degree, students complete 27 semester hours of coursework (12 hours of instructional technology courses, 6 hours of electives, 9 hours of research and thesis). Experiential learning and application of knowledge and skills are vital components of each course.

Challenges to Meeting Faculty Needs

The literature reports four major challenges in designing totally online curriculum and courses: careful planning, time constraints, skilled personnel, and resource limitations (Kang, 2001; Liu, 2001; McArthur, 2002; Schrum, 1998). Kang's (2001) study found that the complexity and creativity required for online course design made expertise and resources a crucial factor in good design. Liu (2001) supported this finding and both authors stated that successful online course development calls for the skills of content experts, instructional designers, graphic designers, media specialists, programmers, and technicians. In this case, the only additional resources provided by the university was funding for one part-time instructor to teach one course for two semesters to allow one faculty member to coordinate the effort. Expertise was not an issue as the C&IT faculty is a team of instructional design and technology experts who together possess all the skills listed above. They collaboratively developed the curriculum and all courses.

However, time for them to do this was, and continues to be, a challenge. Faculty time for planning is the biggest challenge in designing and developing online courses (Kang, 2001; McArthur, 2002). Planning for rich, educational, online experiences

requires more time and energy than traditional teaching (Harris, 2000). The time to develop an online course has been found to be two to three times longer than developing a traditional course (Schrum, 1998). The C&IT faculty team worked during weekend and all day retreats from campus to design the program. Even so, each member still invested a huge amount of personal time and energy to accomplish individual assignments.

Time is also an implementation challenge. Harris (2000) reports that additional time is needed for online instruction to arrange network access, develop technical expertise, and other technologically related tasks. She states that more time, energy, and resources are required to implement worthwhile telecomputing student projects. Faculty's commitment of personal time for development continues as the program evolves and as the university-adopted online system is upgraded and changed.

Challenges to Meeting Student Needs

A critical and challenging need of online students is a supportive learning environment (Ludwig-Hardeman & Dunlap, 2003; McArthur, 2002; McGonigle & Eggers, 1998). Liu's (2001) findings concluded that user-friendliness is the main factor that ensures unfettered learning activities in Web-courses. Two other components top the list of factors comprising such an environment: the level of interaction and support services (Ludwig-Hardeman & Dunlap, 2003).

McArthur (2002) recommends that those offering online courses provide "everything to do with creating an environment in which students can shape their own personal learning with appropriate ease and flexibility" (p. 78). Based on McGonigle and Eggers' (1998) stages of student virtuality, structured instructional and academic support are most important as students begin the program, and they can become less structured later. Instructional needs include course advising, content, instructional strategies, student assessment, and course/program evaluation. Academic needs include admission, registration, finance, library services, and technical consumer advice/training.

Social needs, which include socialization, sociability, counseling, discipline, conflict resolution, professionalization, entertainment, are addressed through the various types of online interactions (Harris, 2000; Presby, 2001). Tuovinen (2000) affirmed that a primary student need in distance learning is interaction, and named four main types of interactions in e-learning: learner-content, instructor-learner, learner-learner, instructor-content.

When C&IT began offering the online Ed. S. in Instructional Technology degree, most student instructional needs were anticipated and met. Faculty planned for various online, interactive ways to accommodate advising, content, instructional strategies, assessment, and course evaluation. An on-site orientation provided information on registration, library services, technical advice and training. However, two implementation challenges were unexpected: differences in support expectations of online students compared to on-campus students, and the difference in fee schedules for the Ed.S. students compared to students in other online programs at VSU. In the department's experience, on-campus students seek assistance with instructional needs

from instructors, but seek help with their service needs (technical, financial, social, etc.) at various on-campus offices, where they are generally aided by others. Because instructors and departmental staff were their points of contact, in this case e-learning students looked to us for help with not only instructional needs but also with academic and social needs. As a result, the department became a clearing house for information on everything from how to buy appropriate equipment to how to lobby for equitable student fees.

This latter item was the most difficult challenge of all. The university had differing fee schedules for other distance learning programs that compared unfavorably in the case of Ed.S. program students. Students in the two other totally online programs did not have to pay extra fees. Over the course of one and one-half years, and after much effort on the part of C&IT faculty and students, this was changed. The fee schedule for distance students is now consistent throughout the university.

Program Evaluation

Formative evaluation was an integral part of the development process. As a result, many changes in courses and a major change in the thesis process were made. Successful program reviews for the University System of Georgia and for the National Council for Accreditation of Teacher Education (NCATE) were conducted in 2001. Currently, summative evaluation data is being compiled and analyzed. For this paper, three factors are reported: admission and graduation rates, student reported satisfaction, and student reported achievement.

There had been only two graduates of the on-campus Ed.S. program when C&IT faculty decided to revise it. The soundness of that decision is upheld by the fact that student recruitment for the online program has been unnecessary. Information about the program is disseminated by program participants through “word of mouth” and by the department’s website. Two cohorts are admitted annually and, beginning with the volunteer field test cohort, there have been many more applicants than the department can accept. This allows the very best students to be selected and increases the probability of the program’s success rate. Table 1 shows admission and graduation rates.

Table 1: Ed.S. Student Admissions and Graduations by Year

	2000	2001	2002	2003	2004
Admissions	24	51	55	58	60
Graduations	0	23	29	14	23

As is the VSU policy for all courses, Ed.S. students complete course evaluation forms at the end of each semester. Because of the program’s delivery mode, the “paper and pencil” evaluation forms were redesigned by the College of Education (COE) Instructional Technologist to be administered online. Three questions are included in all COE student evaluation forms so that comparisons can be made

across departments. Table 2 shows an aggregated summary of the percentage of C&IT students who responded positively.

Table 2: Positive Student Responses on Course Evaluations

COE Evaluation Items	2000	2001	2002	2003	2004
Overall, this was an excellent course.	80%	81%	86%	85%	90%
Overall, the instructor was an excellent teacher.	83%	80%	87%	85%	92%
The course addressed the conceptual framework principles identified in the syllabus.	90%	87%	90%	90%	94%

Upon admission, students are given a self-report survey via which to assess their knowledge and skills in the competencies targeted by the standards. This familiarizes students with the intended outcomes of the program and shows faculty any gaps in expected prerequisite skills. At graduation, exit surveys collect student perceptions of their performance regarding the standards. Results show that students perceive they are meeting standards and many report that they have gone beyond the targeted skills to model competencies in their workplace. Table 3 shows percentages on the pre and post assessments.

Table 3: Ed.S. Student Achievement of Target Competencies

Standards	Pre Program Assessment	Post Program Assessment	Difference*
I Technology Operations	67%	92%	+23%
II Planning & Design	19%	67%	+48%
III Teaching, Learning, & Curriculum	34%	87%	+53%
IV Assessment & Evaluation	12%	66%	+54%
V Productivity & Professional Practice	27%	79%	+53%
VI Social, Ethical, Legal, & Human Issues	17%	62%	+45%
VII Procedures, Policies, Planning, & Budget for Technology Environments	23%	46%	+23%
VIII Leadership & Vision	11%	58%	+47%

*Wilcoxon Signed Ranks Test shows significant differences ($p=.000$) for all standards.

Summary

The C&IT Department's first experiences with a totally online program presented few development challenges, but unexpected implementation challenges. Faculty time was the only challenge in developing the program. Faculty time was also a challenge in implementing and evaluating the program. However, the primary implementation challenge was student support services. E-learning students requested departmental faculty and staff assistance in meeting instructional, academic, and social needs more than did on-campus students. The department became a clearing house for information on everything from how to buy appropriate equipment to how to lobby the administration for equitable student fees. Graduates' exit surveys show that these efforts produced successful results.

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